



1) Sensing surface



### Basic features

Approval/Conformity	CE UKCA cULus WEEE
Basic standard	IEC 60947-5-2
Not incl. in scope of delivery	Mounting bracket, e.g. BMF 305-HW-17
Principle of operation	Magnetic field sensor

### Display/Operation

Function indicator	yes
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### Electrical connection

Cable	PUR, 0.3 m
Cable diameter D	2.90 mm
Connection	M8x1-Male, 3-pin
Polarity reversal protected	yes
Protection against device mix-ups	yes
Short-circuit protection	yes

### Electrical data

Assured switching field strength $H_a$	2 kA/m
Hysteresis $H$ max. (% of $H_n$ )	45 %
Load capacitance max. at $U_e$	1 $\mu$ F
No-load current $I_o$ max., undamped	10 mA
Operating voltage $U_b$	10...30 VDC
Output resistance $R_a$	Open drain
Rated insulation voltage $U_i$	75 V DC
Rated operating current $I_e$	200 mA
Rated operating voltage $U_e$ DC	24 V
Rated short circuit current	100 A
Rated switch field strength $H_n$	1.2 kA/m
Residual current $I_r$ max.	80 $\mu$ A
Ripple max. (% of $U_e$ )	15 %
Switching frequency	10000 Hz
Turn-off delay $t_{off}$ max.	0.05 ms
Turn-on delay $t_{on}$ max.	0.05 ms
Utilization category	DC -13
Voltage drop static max.	3.1 V

### Environmental conditions

Ambient temperature	-25...85 °C
Contamination scale	3
EN 60068-2-27, Shock	Half-sinus, 30 $g_n$ , 11 ms
EN 60068-2-6, Vibration	55 Hz, amplitude 1 mm, 3x30 min
ESD	4A
IP rating	IP67

Magnetic Sensors  
**BMF 305K-NS-C-2-SA2-S49-00,3**  
Order Code: BMF0050

**BALLUFF**

**Functional safety**

MTTF (40 °C) 225 a

**Interface**

Switching output NPN normally open (NO)

**Material**

Housing material LCP  
Material jacket PUR  
Material sensing surface PU

**Mechanical data**

Dimension 33.5 x 5 x 10.5 mm

**Range/Distance**

Temp. drift max. (% of Hn) 0.3 %

**Remarks**

The sensor is functional again after the overload has been eliminated.

UL-MARKINGS: - For use in NFPA 79 Applications only - Adapters providing field wiring means are available from the manufacturer. Refer to manufacturers information.

For more information about MTTF and B10d see MTTF / B10d Certificate

Indication of the MTTF- / B10d value does not represent a binding composition and/or life expectancy assurance; these are simply experiential values with no warranty implications. These declared values also do not extend the expiration period for defect claims or affect it in any way.

**Connector Drawings**



**Wiring Diagrams**

